

CLAIMS

What is claimed is:

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1. An assembly comprising a cylindrical container and a pressure control device (1) for maintaining a constant predetermined pressure in the container (53) which is arranged for dispensing a fluid contained in the container (53) from the container at said pressure, the pressure control device comprising a first chamber (4) and a second chamber (6) as
10 well as at least one closing member (18) movable relative to the second chamber (6) for releasing and closing a fluid connection (16,28) between the first chamber (4) and the container (53) depending on the position of the closing member (18) relative to the second chamber (6), the first chamber (4) being filled with a gas which in use has a higher pressure than the pressure in the container (53), and the position of the closing member (8)
15 relative to the first chamber (4) being at least dependent on the prevailing pressure in the container (53) and the prevailing pressure in the second chamber (6), while in use the fluid connection (16,28) is released when the pressure in the container (53) decreases below the predetermined pressure, so that gas flows from the first chamber (4) to the container (53) and the pressure in the container (53) increases again until the fluid connection (16,28) is
20 closed again by the closing member (8) as a result of the increased pressure in the container (53), wherein the second chamber (6) is located outside the first chamber (4), and the closing member (8) comprises a stem (24) which extends through a first opening (16) of the first chamber (4) wherein the first opening (16) is provided with a sealing ring (20) and the stem (24) is provided with a circumferential recess (22) where the sealing ring (20) extends in the recess (22), the first chamber (4) comprising a vessel (14) which is
25 provided with the first opening (16), the second chamber (6) being formed by a cylinder (10) which is closed at a first end (12) and of which a second end constitutes a second opening (18) and the closing member (8) comprises a plunger (8) moveable in the axial direction of the cylinder (10) wherein the plunger (8) is located into the cylinder (10) and
30 comprises the stem (24) which extends from the vessel (14) through the first opening (16) of the vessel (14) and the second opening (18) of the cylinder (10) to the cylinder (10), the

plunger (8) being provided on its outer side with a sealing ring (26) which constitutes a gas seal between an outer side of the plunger (8) on one side and an inner side of the cylinder (10) on the other,

and wherein:

5 the outer diameter of the cylinder (10) is smaller than the outer diameter of the vessel (14) wherein the vessel (14) is designed as a plunger (53) which is arranged to be received, in the container (38) so as to be movable in axial direction of the container (38), the vessel (14) dividing the container (38) into an upper (55) and a lower part (56), the fluid connection (16) terminating in the lower part (56) of the container (38), while the upper
10 part (55) of the container (38) is filled with the fluid to be dispensed, and in use, when the pressure in the upper part (55) of the container (38) decreases below the predetermined pressure, the pressure in the lower part (56) of the container (38) will likewise decrease because the vessel (14) designed as a plunger (53) will move such that the volume of the upper part (55) of the container (38) will decrease whereas the volume of the lower part
15 (56) of the container (38) will increase, whereby also the fluid connection (16) between the vessel (14) and the lower part (56) of the container (38) is released, so that gas flows from the vessel (14) to the lower part (56) of the container (38) and the pressure in the lower part of the container as well as the pressure in the upper part (56) of the container (38) will rise again, while the vessel (14) designed as a plunger (53) moves further upwards until the
20 fluid connection (16) is closed again by the closing member (8) as a result of the increased pressure in the lower part (55) of the container (38).

2. The assembly according to claim 1, wherein the closing member (18) is located mostly outside the vessel (14).

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3. The assembly according to claim 1, wherein the closing member (8) is connected with the second chamber (6) so as to be movable between a first and second extreme position.

4. The assembly according to claim 2, wherein the closing member (8) is connected with the second chamber (6) so as to be movable between a first and second extreme position.

5 5. The assembly according to claim 1, wherein the volume of the vessel (14) is greater than the volume of the second chamber (6).

6. The assembly according to claim 1, wherein the volume of the second chamber (6) is dependent on the position of the closing member (18) relative to the second chamber (6).

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7. The assembly according to claim 6, wherein:

a first subsurface of the closing member is situated in the first chamber;

a second subsurface of the closing member is situated in the second chamber,

the form of the first and second subsurfaces being such that a certain gas pressure

15 which is exerted on the first subsurface results in a force in a direction of movement of the closing member that is smaller than the force in the direction of movement of the closing member which results when this gas pressure is exerted on the second subsurface, while the first opening can be released or closed by the closing member depending on the position of the closing member relative to the second chamber.

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8. The assembly according to claim 7, wherein the second opening forms a gas seal with the closing member.

9. The assembly according to claim 1, wherein the cylinder (10) extends into the
25 lower part of the container.

10. The assembly according to claim 1, wherein the cylinder (10) is provided with at least one side opening (28) at a position located outside the second chamber, the at least one side opening (28) forming part of the fluid connection (16, 28) between the first
30 chamber (4) and the lower part of the container (53).